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SAMPLE TEST PAPER
CLASS VIII
ONLINE PATTERN

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PHYSICS MARKS : 120

1 Which of the following figures does not use the heating effect of electric current?

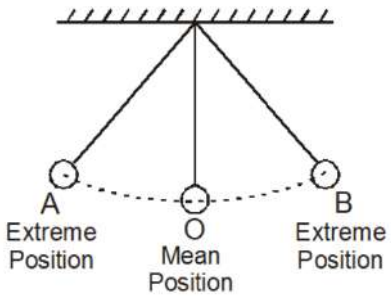
(1) 

(2) 

(3) 

(4) 

2 A simple pendulum, as shown below takes 0.4 second to reach from point O to B. Calculate the time taken to complete 2 oscillations by the given pendulum.



(1) 0.8 second

(2) 1.6 seconds

(3) 3.2 seconds

(4) 6.4 seconds

3 If an object is moving away from a mirror with the speed of 20 cms^{-1}, what is the increase in the separation between the object and its image in 10 s ?

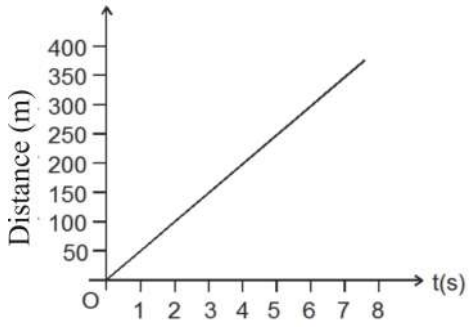
(1) 200 cm

(2) 100 cm

(3) 500 cm

(4) 400 cm

4 A car is moving on a straight road. The Distance–time graph for the motion of the car is shown in figure. Choose the correct option regarding the motion of the car



(1) The car is in the resting state in the parking area.

(2) The car is moving with a uniform speed.

(3) The car is moving with a non-uniform speed.

(4) The car is covering unequal distances in equal intervals of time.

5 In which of the following situations, the maximum pressure is exerted on the ground ?

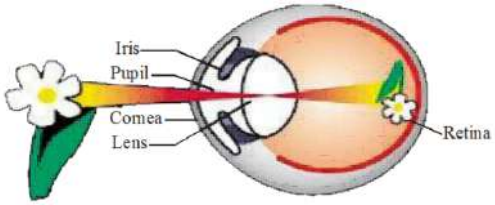
(1) A camel of mass 600 kg standing on the ground and area of four feet is 2000 cm^2.

(2) A girl of mass 50 kg standing on the ground wearing pair of heels having an area of 1 cm^2.

(3) A car of mass 1000 kg having a total surface area of 20 m^2.

(4) A washing machine of mass 90 kg having total area of 5 m^2.

6 The figure below shows how an image of a flower is formed on the retina of a human eye. Which one of the following statements related to the formation of the image is correct?



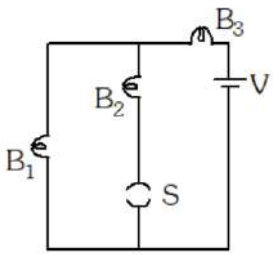
(1) The flower is the source of light, the air between the flower and the eye is transparent, the cornea is transparent, the lens is transparent and the retina is opaque.

(2) The flower reflects light, the air between the flower and the eye is transparent, the cornea is transparent, the lens is transparent and the retina is opaque.

(3) The flower, the cornea and the retina are opaque materials.

(4) The flower refracts light and the lens reflects light.

7 If switch 'S' is 'switched off ' which of these bulbs will glow ?



(1) B_1 and B_3 (2) B_1, B_2 and B_3

(3) B_2 and B_3 (4) Only B_3

8 Gini was hungry one afternoon and rushed to the pot on the stove to dish some food. The boiling pot had a metal spoon in it and Gini burnt her hand. Why did she get burnt?

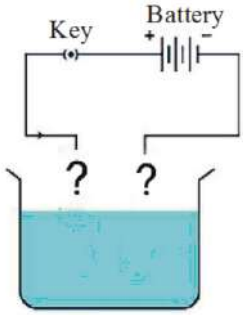
(1) The metal spoon chemically reacted with Gini's hand.

(2) The metal spoon conducted heat to Gini's hand.

(3) The metal spoon conducted electricity to Gini's hand.

(4) The metal spoon insulated Gini's hand.

9 Raghav wants to coat the steel spoon with gold by electroplating method. The respective positions of the spoon and the gold bar will be on



(1) cathode, anode

(2) anode, cathode

(3) cathode, cathode

(4) anode, anode

10 Frequency of a source is 100 Hz. Frequency of sound wave produced by it in air and water will

(1) depend upon speed of waves in these media

(2) depend upon wavelength in these media

(3) be the same as that of source

(4) None of these

11 When a body is stationary

(1) There is no force acting on it.

(2) The force acting on it is not in contact with the body.

(3) The body is in vacuum.

(4) The combination of forces acting on the body balances each other.

12 What is the angle of deviation from a single plane mirror if light is incident at 60° with the mirror?

(1) 30°

(2) 60°

(3) 120°

(4) 150°

13 A body of mass m kg starts from rest and travels a distance of s meter in t seconds. The force acting on it is

(1) $\frac{2ms}{t^2}N$ (2) $\frac{ms}{t}N$

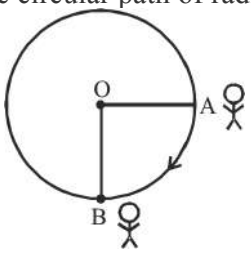
(3) $\frac{ms^2}{2t}N$ (4) $\frac{ms^2}{t}N$

14 If a car covers 2/5th of the total distance with V_1 speed and 3/5th distance with V_2 then average speed is:

(1) $\frac{1}{2}\sqrt{V_1V_2}$ (2) $\frac{V_1V_2}{2}$

(3) $\frac{2V_1V_2}{V_2+V_2}$ (4) $\frac{5V_1V_2}{3V_1+2V_2}$

15 As shown in figure below, what is the distance covered by a person as he goes from point A to B along the circular path of radius 8 m.



(1) 16π (2) 24π (3) 4π (4) 8π

16 A plane mirror is inclined at 25° to the floor. An incident ray parallel to the floor strikes the mirror and a reflected ray is formed. What is the angle of reflection ?

(1) 65° (2) 75° (3) 55° (4) 43°

17 If the lower half of concave mirror's reflecting surface is covered with an opaque material, what effect will this have on the image of object placed in front of mirror ?

(1) Half image will be formed with full brightness.

(2) Half image will be formed with reduced brightness.

(3) Full image will be formed with full brightness.

(4) Full image will be formed with reduced brightness.

18 $Cu^{2+} + 2e^- \rightarrow Cu$ for this reaction which one is correct

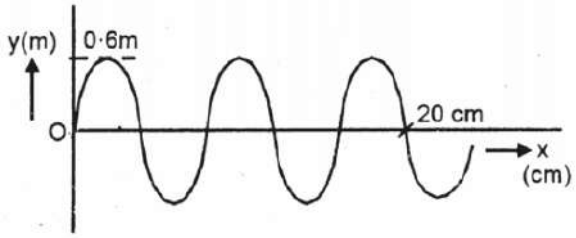
(1) Oxidation of Cu

(2) Reduction of Cu

(3) Reaction takes place at anode

(4) Both 2 and 3

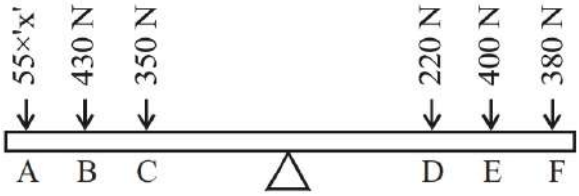
19 What is the frequency of the wave, shown in above figure, if its speed is 300 m/s ?



(1) 3750 Hz (2) 375 Hz

(3) 37.5 Hz (4) 300 Hz

20 Six children A, B, C, D, E and F are sitting on a see saw as shown in the fig.



If the see saw is balanced and A exerts a force of (55 × 'x') N, then find the value of x.

(1) 1 (2) 2

(3) 3 (4) 4

21 Which is prefered material for LED's of different colours?

(1) Gallium (2) Arsenide

(3) Phosphide (4) All the above

22 A sound wave has a frequency of 1 kHz and wave length 25 cm, to travel 2.2 km it takes

(1) $2\frac{3}{7}$s (2) $80\frac{2}{5}$ min

(3) $\frac{5}{4}$ min (4) $8\frac{4}{5}$s

23 Charge on an object is -9.6×10^{-19} C. No. of excess electrons on it is_____.

(1) 6 (2) 8

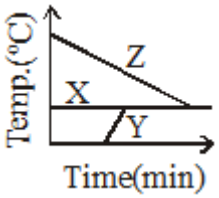
(3) 10 (4) 4

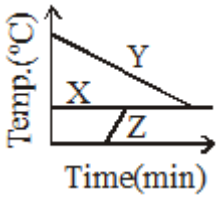
24 The heat required to increase the temperature of 10 kg water by 10^{o} C is: (specific heat of water is 1 cal/g.°C)

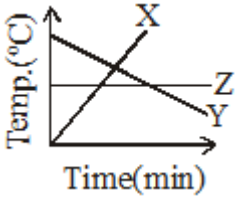
(1) 20 kcal (2) 100 kcal

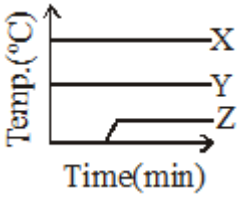
(3) 10 kcal (4) 1 kcal

25 Three identical containers X, Y and Z were filled with the same amount of tap water, boiling water and ice respectively and left in a room. Which one of the following graph correctly shows the change in temperature of content in each container after some time.

(1) 

(2) 

(3) 

(4) 

26 1 unit of electricity costs 5 Rs. If 2 bulb of 10 W each are glowing for 25 hours, they will cost?

(1) 5 Rs (2) 10 Rs.

(3) 2.5 Rs (4) 0.5 Rs

27 If the displacement of an object is proportional to square of time, then the object moves with

(1) uniform velocity

(2) uniform acceleration

(3) increasing acceleration

(4) decreasing acceleration

28 In the electrolysis of water, the electrodes are made from platinum because:

(1) It is cheaper in cost.

(2) It is a poor conductor of electricity.

(3) It does not react with the electrolyte

(4) It absorbs water molecules.

29 The net force acting on a body of mass 1 kg moving with a uniform velocity of 5 m/s is:

(1) 5 N (2) 0.2 N

(3) 0 N (4) None of these

30 When two bodies are in thermal contact, the direction of flow of heat is determined by its

(1) Density (2) Temperature

(3) Heat capacity (4) Mass

CHEMISTRY MARKS : 120

31 Which of the following is a thermoplastic ?

(1) Bakelite (2) Dacron

(3) Polyurea (4) Melamine

32 Which of the following is not used for conservation of water ?

(1) Rainwater harvesting

(2) Using drip irrigation

(3) Construction of bawris/step wells

(4) Cutting vegetation so that less water is lost by transpiration.

33 Which of the following does not resembles wool in properties ?

(1) Acrylic (2) Orlon

(3) Acrilan (4) Lycra

34 A special plastic used for coating utensils on which oil & water do not stick -

(1) PET (2) Teflon

(3) Polystyrene (4) Polythene

35 Which of the following is a physical change?

(1) Growing of hair

(2) Crystallisation

(3) Combustion

(4) Neutralisation of an acid and a base

36 Potable water is

(1) Colourless

(2) Odourless

(3) Free from harmful salts, bacteria and germs.

(4) All of these

37 Which of the following is matched incorrectly?

	Metal	Use
(1)	Titanium	Space science project
(2)	Copper	Electrical wires
(3)	Tin	Soldering
(4)	Mercury	Galvanisation

38 Which of the following element is a building block of proteins ?

(1) Sodium (2) Magnesium

(3) Nitrogen (4) Potassium

39 Why is polyester not suitable for summer wear?

(1) Polyester creases easily.

(2) Polyester does not absorb sweat.

(3) It is very soft and thin.

(4) It does not dry easily.

40 Which of the following will cause a decrease in water table at a place in future?

(1) Lack of Rainwater harvesting infrastructure.

(2) Plenty of Rainfall in an area.

(3) Cloud seeding.

(4) Growing trees.

41 Which of the following metal has less density?

(1) Na (2) Zn

(3) W (4) Fe

42 At many places in India an old practice of water storage and water recharge is present called as____

(1) Well (2) Pond

(3) Stepwell (4) None of these

43 Read the following statements and select the correct option.

I. Artificially prepared synthetic fibre which resemble silk is known as terylene.

II. Rayon is not considered as a fully synthetic fibre as it is regenerated from cellulose.

III. PET bottles and jars are made up of polyesters.

(1) Statement I is false, II and III are true.

(2) Statement I is true, II and III are false.

(3) Statement I and II are false, III is true.

(4) Statement II is true, I and III are false.

44 Aluminium metal is highly resistant to corrosion because

(1) of the presence of weakly adherent Al_2O_3 layer on metal surface.

(2) of the presence of strongly adherent Al_2O_3 layer on metal surface.

(3) of the presence of weakly adherent $Al(OH)_3$ layer on metal surface.

(4) of the presence of strongly adherent $Al(OH)_3$ layer on metal surface.

45 Anjali's mother made concentrated sugar syrup by dissolving sugar in hot water. On cooling, crystals of sugar got separated. This indicates

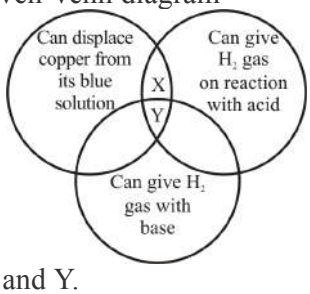
(1) physical change that can be reversed.

(2) chemical change that can be reversed.

(3) physical change that cannot be reversed.

(4) chemical change that cannot be reversed.

46 Refer to given Venn diagram



Identify X and Y.

(1) Fe, Zn (2) Ag, Zn

(3) Fe, Al (4) Both (1) and (3)

47 The metal which produces hydrogen gas on reaction with dilute hydrochloric acid as well as with sodium hydroxide solution is

(1) Cu (2) Al

(3) Na (4) Fe

48 Which of the following has drip-dry property?

(1) Wool (2) Cotton

(3) Jute (4) Nylon

49 An element 'x' occurs in nature in carbonate form and can displace iron from its salt solution but not Aluminium. Element 'x' is

(1) Nickel (2) Zinc

(3) Magnesium (4) Calcium

50 Which of the following is not a balanced equation?

(1) $Mg + CuSO_4 \longrightarrow MgSO_4 + Cu$

(2) $Zn + S \longrightarrow ZnS$

(3) $Fe + Cl_2 \longrightarrow FeCl_3$

(4) $NaOH + HCl \longrightarrow NaCl + H_2O$

51 Which of the following is the characteristic feature of chemical change?

(1) The identity of the substance is maintained.

(2) The change is temporary generally.

(3) The identity of original substance is completely lost.

(4) All of these

52 Which metal is used for the coating of copper or brass vessel to prevent them from corrosion?

(1) Sn (2) Na (3) Mg (4) Ca

53 Anaerobic bacteria digest animal waste and produce biogas (change A). The biogas is then burnt as fuel (change B). The following statements certain to these changes. Choose the correct one.

(1) Process B is a chemical change.

(2) Process A is a chemical change.

(3) Both A and B are chemical changes.

(4) Both A and B are physical changes.

54 Identify the fibre p, q, r.

p → It contains amide bond.

q → It resembles to silk.

r → It can be easily knitted.

(1) p - Polyester q - Rayon r - Wool

(2) p - Acrylic q - Rayon r - Wool

(3) p - Cotton q - Nylon r - Acrylic

(4) p - Nylon q - Rayon r - Acrylic

55 Orlon is a polymer of

(1) Ethene

(2) Vinyl chloride

(3) Acrylonitrile

(4) Melamine

56 Which polymer is used in making automobile battery casing ?

(1) High density polyethene

(2) PVC

(3) Polyester

(4) Polypropylene

57 Observe the given figure

Which of the following process is responsible for the formation of water droplets outside the glass?

(1) Evaporation

(2) Cooling

(3) Condensation

(4) Transpiration

58 Clouds release water through the process of

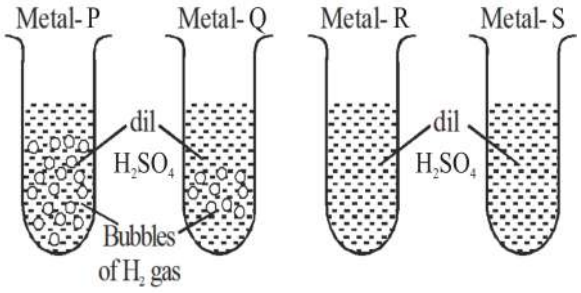
(1) Transpiration

(2) Condensation

(3) Precipitation

(4) Accumulation

59 Observe the rate of evolution of hydrogen gas with four metals, P, Q, R, S. at room temperature



Identify metals A, B, C and D

	P	Q	R	S
(1)	Al	Mg	Cu	Ag
(2)	Fe	Al	Ag	Cu
(3)	Na	Al	Cu	Ag
(4)	Cu	Ag	Fe	Al

(1) 1

(2) 2

(3) 3

(4) 4

60 Which of the following correctly defines an aquifer?

(1) Water percolates into the soil and remains there as moisture

(2) Clouds bring fresh water as rain to the land

(3) The ground water is stored in between layers of porous rocks

(4) Rain water is used to recharge ground water

BIOLOGY MARKS : 120

61 Which of the following is correct?

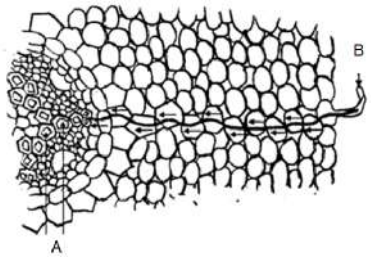
(1) Hot water bath relieves muscle cramps by causing incomplete breakdown of glucose into CO_2.

(2) Muscle cramps occur due to accumulation of ethanol and carbon dioxide.

(3) Muscle cramps occur due to incomplete breakdown of glucose into lactic acid.

(4) Muscle cramps can be alleviated by complete breakdown of lactic acid into ethyl alcohol.

62 Identify A and B from the given diagram.



(1) A: Phloem, B: Vessel

(2) A: Xylem, B: Root Hair

(3) A: Phloem, B: Root Hair

(4) A: Xylem, B: Vessel

63 Match the following scientist according to their contribution.

(i)	Alexander flemming	(a)	Anthrax
(ii)	Edward jenner	(b)	Fermentation
(iii)	Robert koch	(c)	Penicillin
(iv)	Louis pasteur	(d)	Vaccine for tuberculosis
(v)	Calmette & Guerin	(e)	Vaccine for smallpox

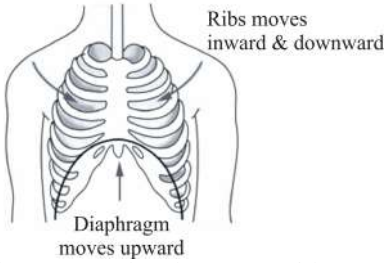
(1) i-b, ii-a, iii-c, iv-d, v-e

(2) i-c, ii-e, iii-a, iv-b, v-d

(3) i-c, ii-d, iii-b, iv-a, v-e

(4) i-b, ii-a, iii-d, iv-c, v-e

64 Observe the given figure.

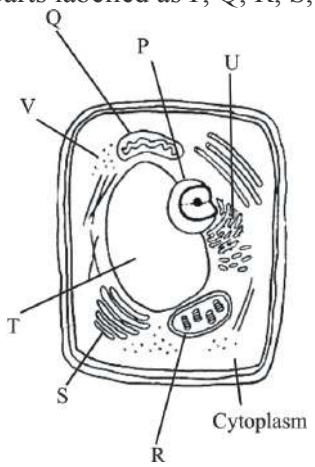


(i) Contraction in external intercostal muscles.
(ii) Relaxation in external intercostal muscles.
(iii) Contraction in diaphragm.
(iv) Relaxation in diaphragm.
(v) Increase in thoracic volume.
(vi) Decrease in thoracic volume.
(vii) Air pressure inside lungs increases.
(viii) Air pressure inside lungs decreases.
Read and select the events that take place during the process shown in figure.

(1) (ii), (iii), (v), (viii) (2) (ii), (iv), (v), (vii)

(3) (ii), (iv), (vi), (viii) (4) (ii), (iv), (vi), (vii)

65 Refer the given figure with the codes given below and select the option which correctly describes parts labelled as P, Q, R, S, T, U & V.



Codes :

(a) Present in both prokaryotic and eukaryotic cells.

(b) Involved in the synthesis of cell wall material.

(c) Involved in membrane biogenesis.

(d) Site of cellular respiration in the presence of oxygen.

(e) Site of light and dark reaction.

(f) Contains hereditary information.

(g) Enclosed by tonoplast.

	P	Q	R	S	T	U	V
(1)	f	d	e	b	g	a	c
(2)	a	b	g	f	c	d	e
(3)	f	d	e	g	b	a	c
(4)	f	d	e	b	g	c	a

66 Following is the list of preservatives used in chemical method of preservation.

(a) Sodium benzoate

(b) Sodium metabisulphite

(c) Potassium metabisulphite

(d) Acetic acid

Amongst the above preservatives which of them are used in preservation of juices, jams, squashes?

(1) (a), (b), (c) only

(2) (a), (b), (c), (d)

(3) (a) and (d) only

(4) (a) and (b) only

67 Wheat is a _____ crop. Soybean is a _____ crop.

(1) Kharif, Kharif

(2) Kharif, Rabi

(3) Rabi, Rabi

(4) Rabi, Kharif

68 Match the following:

	Gas	**Inhaled Air**	**Exhaled Air**
(1)	Oxygen Carbon Dioxide	21% 0.04%	22.4% 4.4%
(2)	Oxygen Carbon Dioxide	21% 0.07%	16.4% 4.4%
(3)	Oxygen Carbon Dioxide	21% 0.04%	16.4% 4.4%
(4)	Oxygen Carbon Dioxide	21% 0.04%	16.4% 7.4%

69 Cell is the basic unit of life. Eukaryotic cells possess different organelles that perform specific functions. Given below are the functions of some organelles. Read them carefully.

A- It is involved in the metabolism of H_2O_2.

B - It converts fat to sugar in germinating seeds.

C - Site of formation of glycolipid & glycoprotein.

D - It helps in synthesis & storage of lipid in plant cells.

E - It is involved in synthesis of cholesterol.

F- Impart colour to flowers & fruits.

On the basis of above information identify A, B, C, D, E & F in the options given below of mark the correct option.

	A	B	C	D	E	F
(1)	Sphaerosome	Glyoxysome	Lysosome	Peroxisome	SER	Leucoplast
(2)	Peroxisome	Chromoplast	Golgibody	Sphaerosome	SER	Leucoplast
(3)	Peroxisome	Glyoxysome	Lysosome	Sphaerosome	RER	Chromoplast
(4)	Peroxisome	Glyoxysome	Golgibody	Sphaerosome	SER	Chromoplast

70 X, Y and Z are three groups of microorganisms. Given below are some characteristics of X, Y & Z

X	Y	Z
Unicellular	Both unicellular & multicellular	Lacks cellular machinery
Nuclear membrane absent	Organised nucleus and lacks chlorophyll	Can be crystallized

Identify the groups and select the correct statements regarding them.
(i) Species of X and Y works as decomposer in ecosystem.
(ii) Species of X causes Diphtheria and pertussis.
(iii) Members of group Z can infect bacterial cells.
(iv) Species of Y causes rust in plants whereas Z can cause yellow vein mosaic in plants
(v) Some species of X helps in the manufacturing of alcohol while some species of Y helps in nitrogen fixation.

(1) (i), (ii) and (iii) only
(2) (i), (iii) and (v) only
(3) (i), (ii), (iii) and (iv) only
(4) (i), (ii), (iii), (iv) and (v)

71 Mahesh said that Amoeba does not have definite shape, identify the structure given below which is similar to Amoeba in shape.

(1) Mycoplasma
(2) White blood cells
(3) Neuron
(4) smooth muscle cells

72 Arrange the living organism below into a correct food chain and calculate the energy assimilated by snake if 10000 KJ energy is available at producer level
(i) Frog (ii) Eagle (iii) Rice plant (iv) Grasshopper (v) Snake

(1) 1 KJ
(2) 10 J
(3) 10000 J
(4) 100 KJ

73 **Assertion (A) :** Chromosomes are responsible for the transfer of characteristic from parents to offspring.
Reason (R) : Chromosomes are present in nucleus.

(1) Both (A) & (R) are true & (R) is correct explaination of (A)
(2) (A) is true but (R) is false
(3) (A) is false but (R) is true
(4) Both (A) & (R) are true but (R) is not correct explanation of (A)

74 Which of the these statements are correct.
(a) Systolic blood pressure is 80 mm Hg.
(b) Heart beat can be measured by Stethoscope.
(c) Mitral valve is present between left atrium and left ventricle.
(d) Superior vena cava carries oxygenated blood.
(e) Left ventricle has thickest wall.
(f) Bicuspid valve is present between right atrium & right ventricle.

(1) a, b, c & f only (2) b, c, d & e only
(3) Only b, c & e (4) b, c, d & f only

75 Match plants in column A with the products obtained from them in column B.

	A		B
(a)	Cane	(i)	Timber
(b)	Neem	(ii)	Oil
(c)	Mahogany	(iii)	Vincristine
(d)	Sandalwood	(iv)	Medicinal
(e)	Catharanthus roseus	(v)	Mat

(1) a-iv, b-iii, c-ii, d-v, e-i
(2) a-v, b-iv, c-iii, d-i, e-ii
(3) a-v, b-iv, c-i, d-ii, e-iii
(4) a-v, b-iv, c-i, d-iii, e-ii

76 The correct sequence of urine movement is

(1) Bladder→Kidney→Ureter→Urethra
(2) Bladder→Urethra→Kidney→Ureter
(3) Kidney→Bladder→Ureter→Urethra
(4) Kidney→Ureter→Bladder→Urethra

77 Tracheal system is present in

(1) Earthworn (2) Cockroach

(3) Frog (4) Birds

78 Highest energy avilable at last trophic level in:

(1) Grass - Grasshopper - Frog - Snake

(2) Grass - Grasshopper

(3) Grass - Grasshopper - Frog

(4) Grass - Grasshopper - Frog - Snake - Eagle

79 A person put warm water in an aquarium, thinking that the fish would be more comfortable in it however, the fish died. What can be the reason for this?

(1) The concentration of oxygen decreases in warm water.

(2) The concentration of carbondioxide increases in warm water.

(3) Fish cannot bear the extreme heat of the water.

(4) All of these

80 Read the statements given below.
(i) Seeds require moisture for germination.
(ii) Plants can absorb nutrients mostly in dissolved from.
(iii) Irrigation protects crops from frost and hot air currents.
(iv) Irrigation improves soil texture.
Choose the combination of statements which indicate the need to irrigate crops.

(1) (i) and (iii)

(2) (i), (ii) and (iii)

(3) (i), (ii), (iii) and (iv)

(4) (i) and (ii)

81 Virus which infect bacteria is

(1) Viroid (2) Bactericide

(3) Bacteriophage (4) Virucide

82 Name the type of forest which covers the largest area in India?

(1) Evergreen Forest

(2) Deciduous Forest

(3) Mangrove Forest

(4) Thorn Forest

83 Which amongst the following methods would be the most appropriate to separate grains from bundles of stalks?

(1) Hand picking (2) Winnowing

(3) Sieving (4) Threshing

84 The process of decomposition of organic matter in limited air, causing incomplete breakdown of matter and produce foul smell is-

(1) Putrefaction (2) Composting

(3) Predation (4) Sludge

85 Which of the following statement is correct about blood?
(i) Blood is the fluid which flows in blood vessels.
(ii) Blood transports substances like digested food from the large intestine to the other parts of the body.
(iii) It carries oxygen from the lungs to the cells of the body.
(iv) It also transports waste for removal from the body.

(1) (i) and (ii) are correct

(2) (i), (ii) and (iii) are correct

(3) (ii) and (iv) are correct

(4) (i), (iii) and (iv) are correct

86 Honey is not contaminated even after year of storage due to an inbuilt food preservation technique that is

(1) Preservation by dehydration.

(2) Preservation by oil.

(3) Preservation by high concentration of sugar.

(4) Preservation by radiation.

87 The largest cell measure 170 mm × 130 mm. It is about 25,000 times bigger than our red blood cell.

(1) Nerve cell

(2) Ostrich egg

(3) Acetabularia

(4) Fibre cells of plant.

88 Which of the following processes, if absent would most significantly affect the movement of water through xylem in the stem?

(1) Minerals salts being taken in by active transport in the roots.

(2) Water lost from the aerial parts of the plant.

(3) Water being given of during respiration.

(4) Water taken in by osmosis in the roots.

89 Organisms which do not involve in biological nitrogen fixation.

(1) Azotobacter (2) Clostridium

(3) Nostoc (4) Nitrobacter

90 In which of the following cellular respiration takes place?

(1) Plants

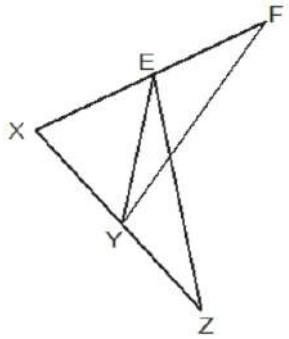
(2) Animals

(3) Unicellular Organisms

(4) All of the above

MATHEMATICS MARKS : 120

91 In the given figure, ΔXYE is an isosceles triangle in which XY = XE. If XE and XY are produced to F and Z respectively such that EF = YZ, then which of the following is incorrect?



(1) EZ = FY (2) $\angle YEZ = \angle EYF$

(3) $\Delta EYZ \cong \Delta EFY$ (4) $\angle XYE = \angle XEY$

92 Convert 3.1262626------- in fraction.

(1) $\frac{31}{90}$ (2) $\frac{619}{198}$

(3) $\frac{3126}{99}$ (4) $\frac{3126}{1000}$

93 A sequence of numbers begins with 1, –1, –1, 1, –1. Each new number is found by taking the product of the two preceding numbers. For instance the sixth number is the product of the fourth and fifth numbers. What is the sum of first 2022 numbers?

(1) 0 (2) –674

(3) 2 (4) –1011

94 A wire of length 44 cm has been bent into a square and a circle. What is difference between the area of two shapes?

(1) 33 cm^2 (2) 44 cm^2

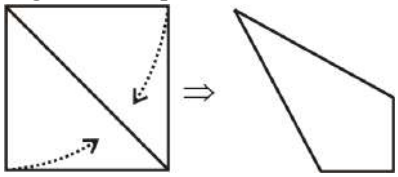
(3) 54 cm^2 (4) 11 cm^2

95 The width of a ring is 6 cm and the area of the inner circle is 616 cm^2. Find the circumference of the outer circle.

(1) 88 cm (2) $\frac{880}{7}$ cm

(3) $\frac{264}{7}$ cm (4) $\frac{8800}{7}$ cm

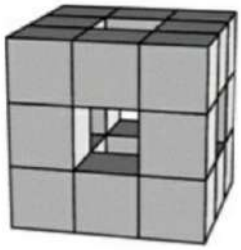
96 Zaida took a square piece of paper and folded two of its sides to the diagonal, as shown to obtain a quadrilateral. What is the size of the largest angle of the quadrilateral?



(1) 112.5° (2) 135°

(3) 125° (4) 150°

97 A 3 × 3 × 3 cube is made up of small 1 × 1 × 1 cubes. Then the middle cubes from front to back, from top to bottom and from right to left are removed (see diagram). How many 1 × 1 × 1 cubes remain?



(1) 18 (2) 15

(3) 20 (4) 21

98 Find the value of x.

$$\frac{1}{x-1}-\frac{1}{x}=\frac{1}{x+3}-\frac{1}{x+4}$$

(1) $\frac{3}{2}$ (2) 1

(3) $-\frac{3}{2}$ (4) $\frac{1}{2}$

99 $1^3+2^3+3^3+...+10^3$ is equal to:

(1) 1024 (2) 3025

(3) 2025 (4) 1025

100 If $2^x=3^y=6^{-z}$, find value of $\frac{1}{x}+\frac{1}{y}+\frac{1}{z}$.

(1) 1 (2) 3

(3) 6 (4) 0

101 The denominator of a rational number is greater than its numerator by 3. If 3 is subtracted from the numerator and 2 is added to its denominator, the new number becomes 1/5. Find the original number

(1) $-\frac{5}{8}$ (2) $\frac{3}{8}$

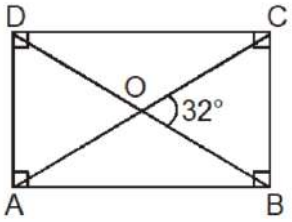
(3) $\frac{5}{8}$ (4) $-\frac{3}{8}$

102 How many four digit perfect square numbers are there?

(1) 66 (2) 67

(3) 72 (4) 68

103 In the given figure (not to scale), ABCD is a rectangle whose diagonals intersect at O, then measure of ∠ODA is:



(1) 65° (2) 58°

(3) 74° (4) 32°

104 What value of 'y' satisfies the equation:

$$\frac{a+b-y}{c}+\frac{a+c-y}{b}+\frac{c+b-y}{a}+\frac{4y}{a+b+c}=1$$

(1) ab + bc + ca (2) 0

(3) a + b + c (4) 1

105 If the prime factorization of 3600 is of the form $2^p\times3^2\times5^q\times7^\ell$, then the value of $\frac{p+q+\ell}{3}$ is:

(1) 6 (2) 1

(3) 3 (4) 2

106 If $\frac{x}{\sqrt{6.25}}=450$, then the value of x is:

(1) 1025 (2) 925

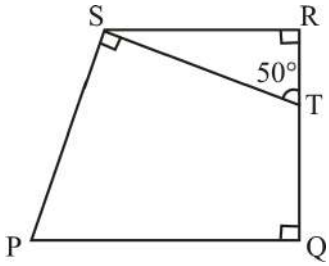
(3) 1125 (4) None of these

107 The cube of a number x is 81 times the number. Find the value of x, where $x\neq0$.

(1) 3 (2) 4

(3) 6 (4) 9

108 In the given figure, the value of ∠TSR + ∠SPQ is:



(1) 100° (2) 40°

(3) 90° (4) 50°

109 Which of the following is/are greater than x, when $x=\frac{7}{11}$?

I. $\frac{1}{x}$ II. $\frac{x+1}{x}$ III. $\frac{x+1}{x-1}$

(1) I only (2) I and II only

(3) I and III only (4) II and III only

110 If $(2^{3p-1}+16)\div8=6$, then the value of p is:

(1) 2 (2) 4

(3) 27 (4) 9

111 The present age of a father is 3 years more than four times the age of his son. Five years hence, father's age will be 1 year more than thrice the age of the son. The present age of son is:

(1) 18 years (2) 20 years

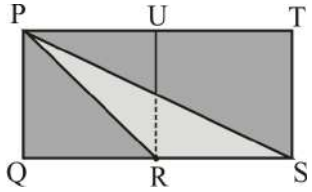
(3) 8 years (4) 12 years

112 The number of edges in a prism having 5 faces and 6 vertices are:

(1) 6 (2) 7

(3) 8 (4) 9

113 The given figure shows a triangle in two identical squares. The area of triangle PRS, if each square has an area of 196 m^2 is:



(1) 89 sq.m (2) 98 sq.m

(3) 48 sq.m (4) 94 sq.m

114 The sum of the additive inverse and the multiplicative inverse of 1 is:

(1) 2 (2) 1

(3) 0 (4) –1

115 The difference between an exterior angle of (n – 2) sided regular polygon and an exterior angle of (n + 1) sided regular polygon is 4°. Find the sum of interior angles of n sided polygon.

(1) 2880° (2) 2700°

(3) 1980° (4) None of these

116 Given, PQ = 4 cm, PR = 5 cm and $\angle Q = 30°$. ΔPQR cannot be uniquely constructed with PR as base, why?

(1) The other two angles are not given.

(2) The vertex P coincides with the vertex R.

(3) Two sides and included angle are given.

(4) The vertex Q cannot be uniquely located.

117 The number that must be subtracted from 5798 to get a perfect square is_____.

(1) 19 (2) 20

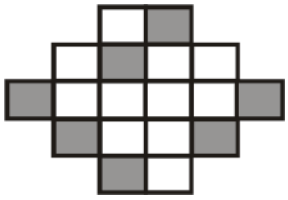
(3) 21 (4) 22

118 The sum of Rs. 312 is distributed among A, B and C in such a way that B gets Rs. 72 more than C and A gets as much as C. Find B's share.

(1) Rs. 72 (2) Rs. 152

(3) Rs. 142 (4) None of these

119 How many more squares in the figure must be shaded so that the fraction of shaded square is $\frac{5}{9}$?



(1) 1 (2) 2 (3) 3 (4) 4

120 In ΔPQR, PQ = PR and PM is perpendicular bisector of QR. The property by which ΔPMQ is not congruent to ΔPMR is_____.

(1) RHS property (2) SAS property

(3) SSS property (4) None of these

MENTAL ABILITY MARKS : 160

121 Pointing to a girl in the photograph, Ajay said, "Her mother's brother is the only son of my mother's father." How is the girl's mother related to Ajay ?

(1) Mother (2) Aunt

(3) Cousin (4) Data insufficient

122 If PRESENT is coded as 11 – 9 – 22 – 8 – 22 – 13 – 7, then how will you code WALKER ?

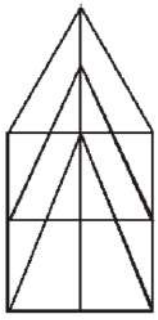
(1) 4 – 26 – 15 – 16 – 22 – 9

(2) 4 – 26 – 14 – 16 – 12 – 11

(3) 23 – 15 – 13 – 1 – 9 – 7

(4) 23 – 12 – 16 – 14 – 13 – 8

123 How many triangles and parallelograms are there in the following figure ?



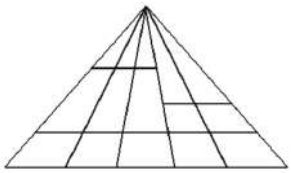
(1) 21 triangles, 17 parallelograms

(2) 19 triangles, 13 parallelograms

(3) 21 triangles, 15 parallelograms

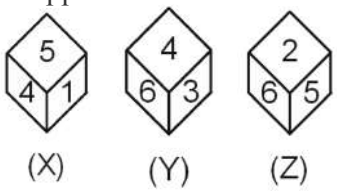
(4) 19 triangles, 17 parallelograms

124 Count the number of triangles in the given figure



(1) 40 (2) 60 (3) 39 (4) 41

125 Three different positions X, Y and Z of a dice are shown in the figures given below, which number lies opposite to 4?



(1) 1 (2) 2 (3) 4 (4) 5

126 One morning after sunrise, Amitesh and Peter were facing each other. Amitesh noticed that shadow of Peter is to the right of Amitesh. Which direction was Peter facing?

(1) East (2) West

(3) South (4) North

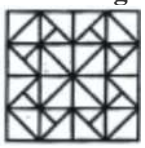
127 There was a storm in the city, due to which axis of weather vane (also known as weather clock) rotated 180° clockwise. Now as per weather-vane, in which direction sunrise takes place ?

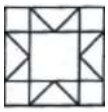
(1) East (2) West

(3) North (4) South

128 In the given question, a question figure is given with four answer figures (1), (2), (3) and (4). Find out that answer figure which is embedded in the question figure.

Question Figure



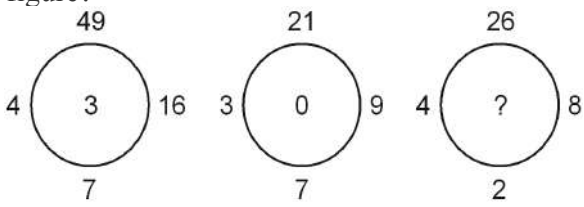
(1) 
(2) 
(3) 
(4) 

129 In the given question, a matrix of certain numbers is given. These numbers follow a certain trend, row-wise or column-wise. Find out this trend and choose the missing numbers accordingly.

5	6	7
3	4	5
9	10	11
345	460	?

(1) 535 (2) 577 (3) 755 (4) 775

130 What number will replace "?" in the given figure?



(1) 6 (2) 11 (3) 9 (4) 1

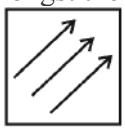
131 If '#' Means 'Subtraction', '&' Means 'division', '@' Means 'addition', and '%' Means 'Multiplication', then 516 & 6 # 10 @ 50 % 6 = ?

(1) 210 (2) 275 (3) 376 (4) 290

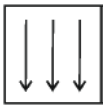
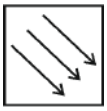
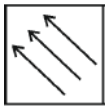
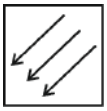
132 If '+' means 'minus', '×' means 'divided by', '÷' means 'plus' and '–' means 'multiplied by', then which of the following will be the value of the expression 252 × 9 – 5 + 32 ÷ 92?

(1) 95 (2) 168 (3) 192 (4) 200

133 Choose the correct mirror image of the given figure (X) from amongst the four alternatives.



(X)

(1) 
(2) 
(3) 
(4) 

134 Find the next term in the given series ?
3, 10, 29, 88, 263, ?

(1) 690 (2) 790 (3) 630 (4) 420

135 In a row, Priya is 10^{th} from the left while Pintu is 25^{th} from right and Bharati is just in the Middle of the two. If there be 50 persons in the row. What position does Bharati occupy from the left?

(1) 14^{th} (2) 16^{th}

(3) 18^{th} (4) 20^{th}

136 Find the next term in the given series ?
0, 4, 18, 48, 100, ?

(1) 120 (2) 160

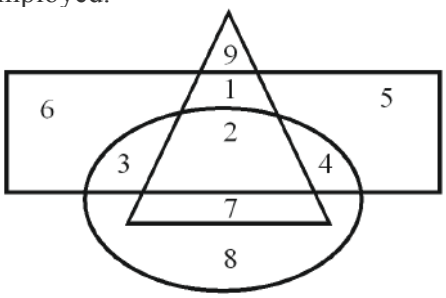
(3) 180 (4) 220

137 Find the next term in the given series ?
4, 31, 60, 91, 124, ?

(1) 153 (2) 130

(3) 154 (4) 159

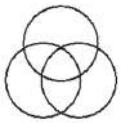
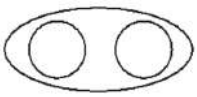
138 In the figure given below, triangle represents the female, rectangle represents the employed and oval represents the doctors. Which of the following represents female doctors who are not employed.

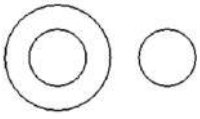
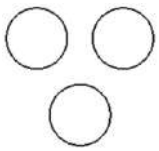


(1) 1 (2) 3

(3) 7 (4) 8

139 Which of the following Venn-diagram correctly illustrates the relationship among the classes:
Triangle, Four - sided figure, Rectangle

(1)  (2) 

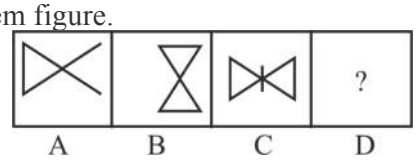
(3)  (4) 

140 Find the water image of following figure.

(1)  (2) 

(3)  (4) 

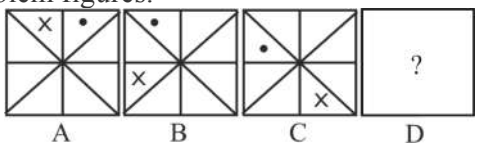
141 Select the figure from the options which should complete the series formed by the problem figure.

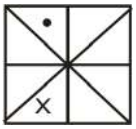
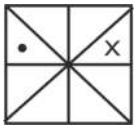


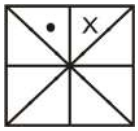
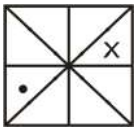
(1)  (2) 

(3)  (4) 

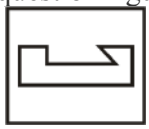
142 Select the figure from the options which should complete the series formed by the problem figures.

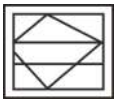


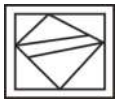
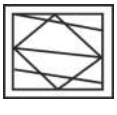
(1)  (2) 

(3)  (4) 

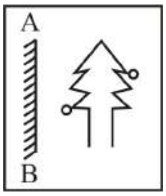
143 In the given question, a question figure is given with four answer figures (1), (2), (3) and (4). Find out that answer figure which is embedded in the question figure.



(1)  (2) 

(3)  (4) 

144 Choose the correct mirror image of the given figure (X) from amongst the four alternatives.

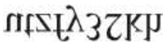
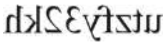


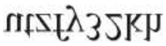
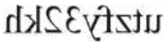
(1)  (2) 

(3)  (4) 

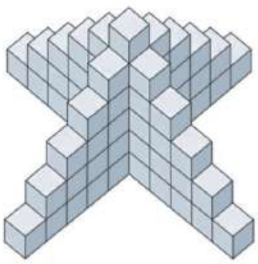
145 Choose the alternative which most closely resembles the water image of the given combination.

utzfy32kh

(1)  (2) 

(3)  (4) 

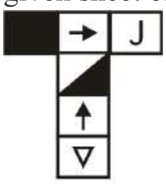
146 Count the number of cubes in the given solid.



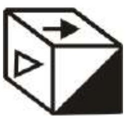
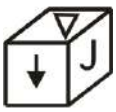
(1) 63 (2) 65

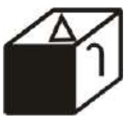
(3) 66 (4) None of these

147 Choose the box that is similar to the box formed from the given sheet of the paper (X).



(X)

(1)  (2) 

(3)  (4) 

148 Find out the wrong term in the given series.

7, 25, 61, 120, 211, 337

(1) 25 (2) 61

(3) 120 (4) 211

149 A + B means 'A is father of B'
A – B means 'A is wife of B'
A × B means 'A is brother of B'
A ÷ B means 'A is daughter of B'
If M ÷ N + O – P then which of the following is true?

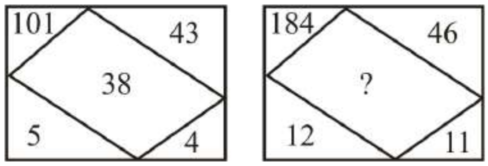
(1) M is daughter of P

(2) P is father-in-law of N

(3) N is father-in-law of P

(4) N is father of P

150 Which number will replace "?"



(1) 6 (2) 12

(3) 24 (4) None of these

151 If "men are very busy" means "1234",
"busy persons need encouragement" means "4567",
"Encouragement is very rare" means "2850",
What is the code for "Encouragement" ?

(1) 5 (2) 6 (3) 8 (4) 4

152 If > denotes +, < denotes –, + denotes ÷, – denotes =, = denotes 'less than' and × denotes 'greater than'.
Identify the correct expression.

(1) 3 + 2 < 4 = 9 + 3 < 1

(2) 1 – 3 > 2 + 1 × 5 + 3 – 1 > 2

(3) 1 – 3 > 2 + 1 – 5 = 3 – 1 < 2

(4) 3 – 2 > 4 = 18 + 3 < 2

153 Rahul went 140 metres in the East before turning to his right. He went 20 metres before turning to his right again and went 20 metres from this point. From here be went 180 metres to the North. How far was he from the starting point?

(1) 360 metres (2) 280 metres

(3) 200 metres (4) 100 metres

154 If in any code language "NATIONAL" is written as "OZMLRGZM" than how is "INDIAN" written in that language.

(1) RMWRZM

(2) QZRKFI

(3) MZRXMR

(4) MZRWMR

155 How many even numbers are there in the following series of numbers, each of which is preceded by an odd number, but not followed by an even number?

5 3 2 4 6 7 8 9 7 1 6 5 3 2 9 7 8 4 3 9 8 7 3 5

(1) 6

(2) 4

(3) 3

(4) None of these

156 In a queue, P is eighteenth from the front while Q is sixteenth from the back. If R is twentieth form the front and exactly in the middle of P and Q. Then how many person are there in the queue?

(1) 35

(2) 36

(3) 37

(4) 38

157 P, Q, R, S, T, U, V & W are the family members. Q is the sister of V and V is the brother of R. T is the wife of P, whose father is W. S is the husband of Q and U is the son of V. P is the father of Q. Then, how W is related with R?

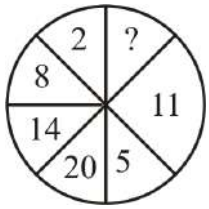
(1) Grandfather

(2) Uncle

(3) Son

(4) Brother

158 Which number will replace "?" in the given figure?



(1) 3

(2) 17

(3) 16

(4) 9

159 A cube made of 125 smaller equal cubes has been painted on its surfaces in such a way that two opposite surfaces have been painted red and two adjacent surfaces have been painted green. Two remaining surfaces have been left unpainted.

How many cubes will have green colour on its surfaces?

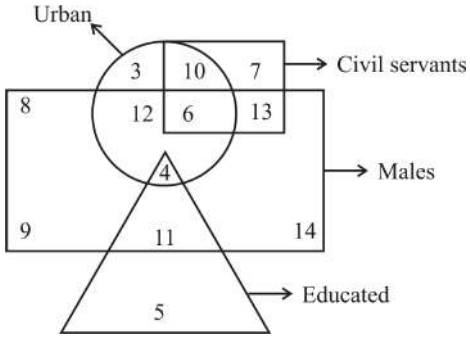
(1) 50

(2) 5

(3) 45

(4) None of these

160 In the given venn diagram, who among the following is neither a civil servant nor educated but is urban and not a male?



(1) 2

(2) 3

(3) 6

(4) 10

ALLEN OVERSEAS

(OVERSEAS_PRE-NURTURE_CLASS VIII)

TARGET: TALLENTEX

TEST PATTERN :OBJECTIVE ANSWER KEY TEST TYPE :MINOR

ANSWER KEY

Q.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A.	4	3	4	2	2	2	1	2	1	3	4	3	1	4	3	1	4	2	1	4
Q.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
A.	4	4	1	2	2	3	2	3	3	2	2	4	4	2	2	4	4	3	2	1
Q.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
A.	1	3	1	2	1	4	2	4	2	3	3	1	3	4	3	4	3	3	3	3
Q.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
A.	3	2	2	4	4	1	4	3	4	3	2	3	4	3	3	4	2	2	4	3
Q.	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
A.	3	1	4	1	4	3	2	2	4	4	3	2	2	1	2	1	3	3	2	4
Q.	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
A.	3	4	3	3	4	3	4	3	2	1	3	4	2	3	2	4	4	2	3	4
Q.	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
A.	1	1	1	3	2	4	2	2	2	2	3	4	3	2	3	3	4	3	3	2
Q.	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
A.	1	4	1	1	3	3	4	3	3	1	1	1	3	4	2	3	1	2	3	2